

GP-303539

ANTI-JACKKNIFE CONTROL FOR VEHICLE-TRAILING BACKING UP USING REAR-WHEEL STEER CONTROL

ABTRACT OF THE DISCLOSURE

A vehicle control system that selectively provides rear-wheel steering to prevent a vehicle-trailer from jackknifing during a back-up maneuver. The system senses a steering angle of the vehicle, a speed of the vehicle and a hitch angle between the vehicle and the trailer. The system calculates an equilibrium hitch angle that is a steady-state hitch angle position based on the steering angle and the vehicle speed, and a pseudo-equilibrium hitch angle that is a steady-state hitch angle at a maximum rear-wheel steering input based on the steering angle and the vehicle speed. The system then determines whether the rear-wheel steering should be provided based on a predetermined relationship between the sensed hitch angle, the equilibrium hitch angle and the pseudo-equilibrium hitch angle.